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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,843	04/27/2001	Claudiu D. Pruteanu	20010142.ORI	2768

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EXAMINER	
KEENAN, JAMES W	

ART UNIT	PAPER NUMBER
3652	

DATE MAILED: 11/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/844,843	PRUTEANU ET AL.	
	Examiner	Art Unit	
	James Keenan	3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 August 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *51-53,55-57 and 59-64* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *51-53,55-57 and 59-64* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

1. The corrected or substitute drawing (figure 7) was received on 8/25/03. This drawing is approved.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 51-53, 55-57, and 59-64 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 63, line 2, it is not clear how or to what the boom is "mounted so as to provide variable ... range";

and lines 9-10 and 13-14, "said one or more curved arms" should be --said at least one curved arm--.

This also applies to claim 64.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 51, 55, 56, 60, 61, 63, and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandt in view of Sizemore et al, both previously cited.

Brandt shows a container handling system mounted on a side loading refuse vehicle including extensible boom 24, mechanized arm arrangement 26 comprised of a single shaped arm member operated by a hydraulic cylinder, container grabber device 28, position sensing system 150 for sensing the boom extension, position sensing system 152 for sensing the arm rotation, actuators 66, 68, and 118-120 for extending/retracting the boom, rotating the arm arrangement, and operating the grabber device, respectively, and a programmed microprocessor control system for operating the container handling system. The arm arrangement is at least to some extent considered to be "curved", as broadly claimed (such as at the upper and lower ends thereof, shown in figure 5).

Brandt shows the arm actuator to be a hydraulic cylinder rather than a hydraulic rotary actuator.

Sizemore et al show a side loading refuse collection vehicle which utilizes rotary actuator 49 to rotate arm 18.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus of Brandt by substituting the arm hydraulic cylinder thereof with a rotary actuator, as Sizemore et al show that this would be an alternate equivalent expediency in the same environment.

Re claim 51, the use of a pair of parallel spaced arms rather than a single solid arm is considered an obvious design choice. To connect such arms to opposite ends of a double-ended output shaft of the rotary actuator would have been a mere design expediency.

Re claims 55-56, the sensors of Brandt are potentiometers with rotating shafts. As best understood, such a structure is considered to be an "angular displacement transducer". On the other hand, the use of angular displacement transducers, if not inherent, is considered an obvious design expediency.

6. Claims 52, 53, 57, and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandt in view of Sizemore et al, as applied to claims 51, 55, 56, 60, 61, and 63 above, and further in view of Duell et al, previously cited.

Brandt as modified does not disclose controlling the rotational speed of the arm based on the sensed arm position, although the ability to avoid slamming the container into the ground after the dump cycle is completed is disclosed, which ability is based on the sensed arm position.

Duell et al show an automated refuse vehicle wherein the rotational speed of the dumping arm 26 can be controlled according to several parameters, and at least to some extent is based on an arm position sensor AP_1 (potentiometer).

It would have been obvious for one of ordinary skill in the art at the time of the invention to have further modified the apparatus of Brandt by controlling the rotational speed of the arm based on the arm position sensor, as suggested by Duell et al, as this would provide greater efficiency and flexibility when operating in the automatic dump cycle mode.

7. Claim 59 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brandt in view of Sizemore et al, as applied to claim 64 above, and further in view of Duell et al and Tordenmalm et al, previously cited.

As noted in paragraph 6 above, it would have been obvious to have further modified the apparatus of Brandt in view of Duell et al. Duell et al disclose that the cylinder endpoints are "cushioned" so that the pistons are not banged into the cylinders at the end of travel. As best understood, this is a mechanical damping means. Thus, although the modified apparatus of Brandt as further modified by Duell et al would have a damping means, it would not be part of the control system.

Tordenmalm et al show a control system for damping a piston as it approaches its end position in a hydraulic cylinder, including sensing means and a braking system operating in response thereto.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have further modified the apparatus of Brandt by utilizing a control means for damping the piston as it approached its end of travel in the cylinder, as suggested by the combined teachings of Duell et al and Tordenmalm et al, as this would simply be a well known expediency in the art for reducing shock and damage to the piston/cylinder assemblies.

8. Claims 51, 55, 56, 60, 61, 63, and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandt in view of Sizemore et al and McNeilus et al, previously cited by applicant.

While Brandt in view of Sizemore et al is considered to obviate these claims, as noted above, the following rejection is used to strengthen the examiner's position in the event it is determined that the arm is not curved and/or the claim is amended to more fully define such a curve.

McNeilus et al show a container handling system similar to that of Brandt (same assignee), including several embodiments of arm arrangements. Some (see esp. Figures 5 and 8) have a curved or bent arm structure.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have further modified the apparatus of Brandt by utilizing a curved arm structure as shown by McNeilus et al, if not inherent therein, as this is shown to be an alternate equivalent arm structure in the same environment.

9. Claims 52, 53, 57, and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandt in view of Sizemore et al and McNeilus et al, as applied to claims 51, 55, 56, 60, 61, and 63 above, and further in view of Duell et al.

This rejection utilizes the same obviousness rationale set forth in paragraph 6 above.

10. Claim 59 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brandt in view of Sizemore et al and McNeilus et al, as applied to claim 64 above, and further in view of Duell et al and Tordenmalm et al.

This rejection utilizes the same obviousness rationale set forth in paragraph 7 above.

11. Applicant's arguments filed 8/25/03 have been fully considered but they are not persuasive.

Applicant argues that Brandt does not teach shortening the pivotal radius of the system. This is not understood, as no such limitation appears in the claims. Applicant further states that Brandt does not require an angular position-sensing device to determine arm location. This is not persuasive. Brandt shows each position sensing device to include a rotating shaft that measures the relative angular position of the corresponding physical element. Applicant argues that the rotary actuator device of Sizemore et al has a limited pivot arc and could not be adapted to operate as claimed. However, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Keenan whose telephone number is (703) 308-2559.

The fax phone number for the organization where this application or proceeding is assigned is 305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-1113.

jwk

November 4, 2003

JAMES W. KEENAN
PRIMARY EXAMINER